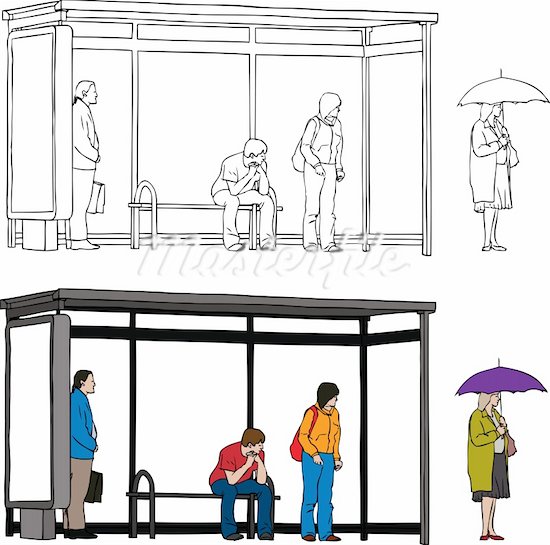
aurora drenning-ribeiro

eleonore plusqeullec

marta tarantsey

**D E S I G N**

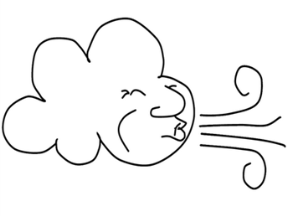
**BUS SHELTER & BIOMIMICRY**

The goal is for our design is to support users with similar goals and patterns of usage, but that perhaps have differing levels of usage and reasons for taking public transportation.  To identify these people and their needs, we used what Calabria (2004) calls the ‘persona’ technique- “the development of archetypal users to direct the vision and design of a…solution.”

I N T E R V I E W S

Why people take the bus: “Cheaper”, “It is the only transportation available- I have no car and it will get me there.” “It performs a service that I need to get a job done.”

 **P R O B L E M S I D E N T I F I E D\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

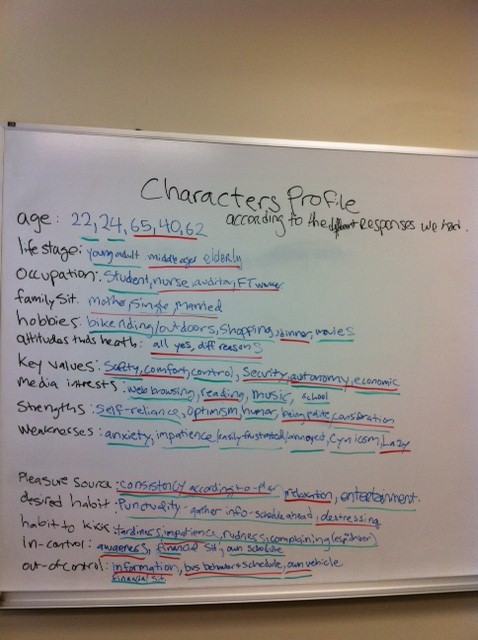
* Inclement weather (cold, rain, wind), Offer little cover against wind, rain blows in open side.
* Seats with backs instead of benches- I feel bad for the older people who need to sit the most.
* Rain cover covers from the top, but doesn’t prevent **rain** from coming in underneath.
* Seats wet, and if it’s **raining** people still get wet from **rain** even when sheltered.  Dirt
* **Lighting** is an issue- people feel unsafe at night.
* Benches drain though the bench holes
* Need information about the bus schedule

**D E S I R E D I M P R O V E M E N T S**

* Better protection against the elements
* More information, maps, or ads- something to look at because I am always bored
* More space and rain coverage
* I would like more surveillance
* Better **lighting**

I D E A L B U S S T O P

* Enclosed space, heating/air conditioning, trash cans, Insulation
* The buses schedule/wait time/how long the wait will be
* Glasses and roof so no rained on and see when the bus Is coming
* Trash can but emptied frequently and at a respectful distance
* Not just the number of the bus but show the route and the time at what they stop
* Need to be able to notice where the bus stop is, a **bright color** but not ugly or neon
* reassurance the next bus will come electronic sign
* Bag hooks

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OUR

C H A R A C T E R P R O F I L E S

**Group A:**

**20’s Young adult, students**

**P O I N T S O F V I E W**

1. The young adults need to **feel in control** because they can easily get impatient and frustrated.
2. The young adults need to **not feel anxious** as they wait for the bus.
3. The young adults need to feel safe and secure because waiting for the bus should not be as we are stand up in a motorway.
4. The young adults need to live the experience positively because most of the time they get angry as they are compelled to wait for a bus in bad circumstances.
5. The young adults **need a distraction** for entertainment and a **source of knowledge and information** in order to feel in control regarding the overall situation.

T H E Q U E S T I O N

**“How might we instill a sense of patience, reduce anxiety, and mitigate frustration over the schedule of the bus and conditions of the bus stop *within this environment*?”**

We tried to answer this question through the functionality of our bus stop, as well as by using **biomimicry** to inspire the design and help solve the user’s needs. “How might we” and “How might Nature?” questions led to our prototype designs.

“H O W M I G H T WE…?”

Form

Structure: retractable structure (A), dome shaped to divert and repel water(B), helps keep clean

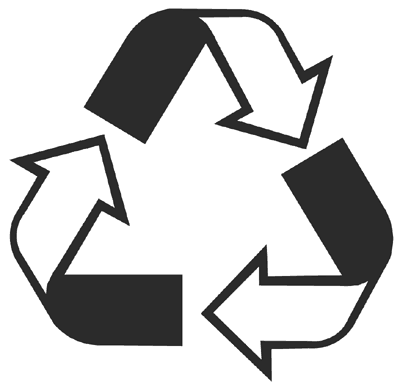
Lighting: Transparent walls (A&B), self-tinting walls (B)

Function

Seating: bench with holes, chairs, retractable chairs, arc-shaped bench

Information: Indicator light for bus proximity (B), LED scrolling or fixed (A), traditional paper maps and schedules(A), GPS live tracker map/app (B), individual occupier indicator light (A&B)

Lighting: Transparent walls (A&B), self-tinting walls (B), sensor lighting (B), fluorescent lighting (A), timed-lighting (A)

Manufacturing Process:

Materials: Recycled plastic (A&B), concrete (A&B)

Process: Understanding scale effects (solar panels) (A)

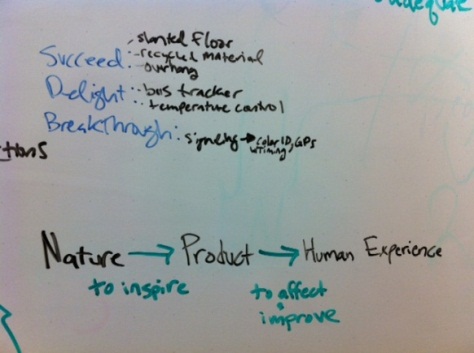
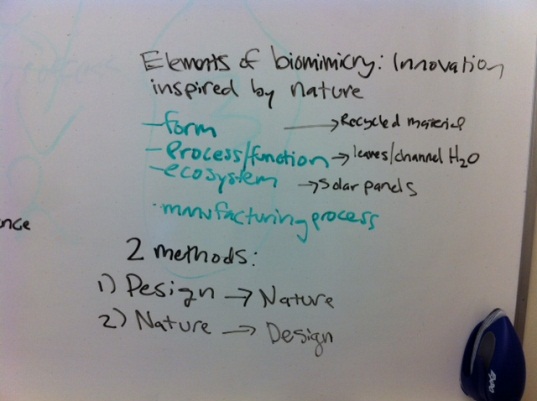
B I O M I M I C R Y

To help define what our design lacked, and that nature might help resolve, we delved deeper into ‘defining the habitat and location,’[[1]](#footnote-1) which includes: social conditions, climate conditions, nutrient conditions, and temporal conditions. With these factors in mind, we identified the following most pertinent issues to try to solve with **biomimicry.**

*Climate:* Weather protection, comfort: emotional issue

*Social Conditions:* Adequate seating, signaling, awareness, control, timing, security

*Temporal Issues:* Adequate seating at busy/slow times, day/night lighting, user- specific lighting



“H O W M I G H T N A T U R E…?”

*Purpose: Function: Natural Example: Our Usage:*

Cyclical use of Recycling Decomposition Sustainable resources material (A&B)

Using natural energy Sustainable energy Photosynthesis Using solar energy:

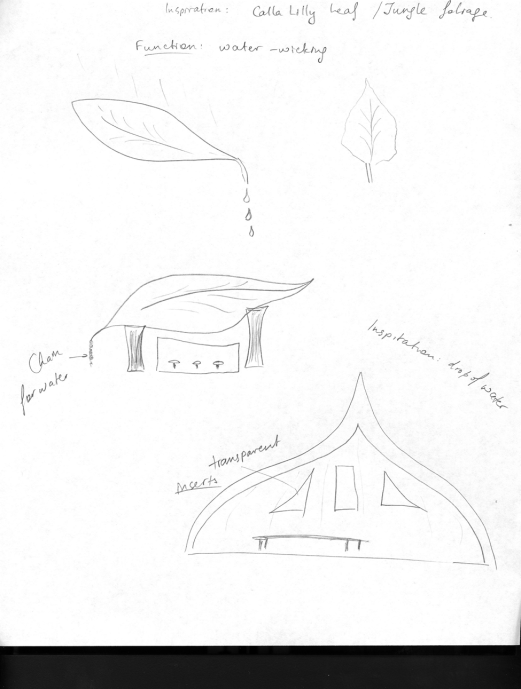
Solar panels (A)

Light regulation Responsive to Night Blooming flowers Photosensitive walls (B)

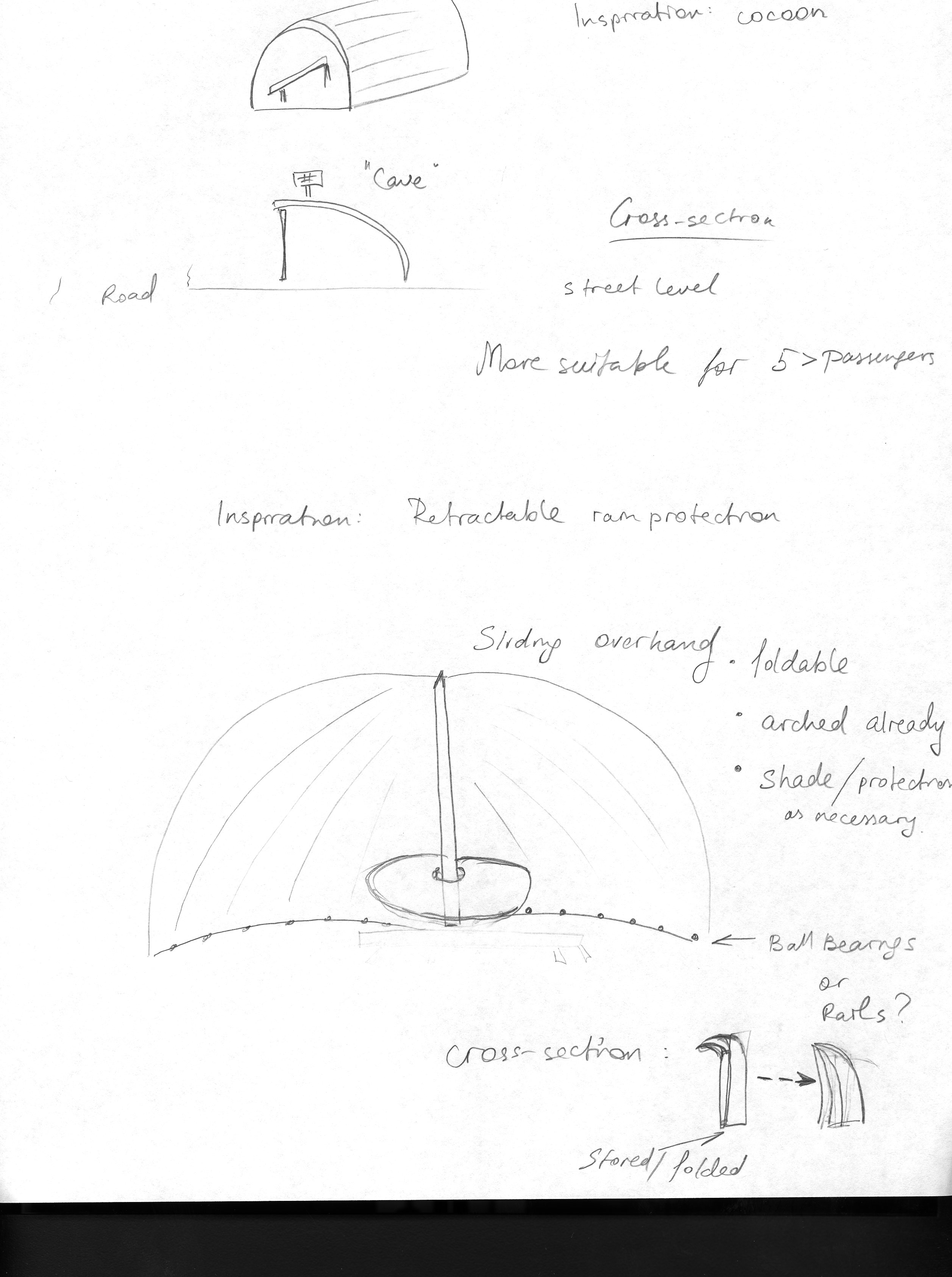
specific conditions

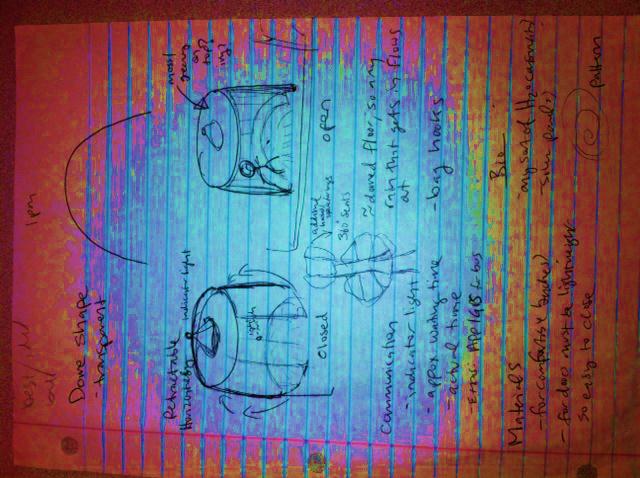
Communication Distance Signaling Dolphins: Echo location Satellite/radio wave light signal too indicate distance (B)

P R O T O T Y P I N G

 &

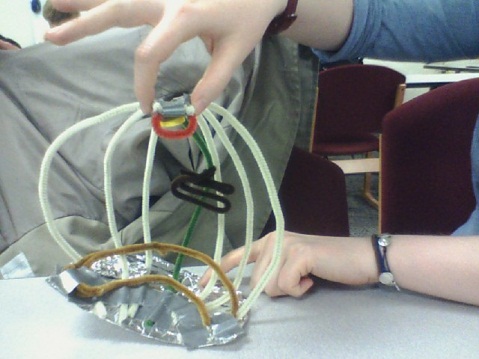
D E S I G N I N G





R E S U L T S

P R O T O T Y P E A

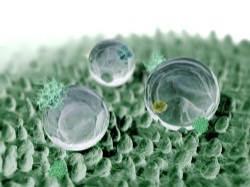
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P R O T O T Y P E B

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N E X T S T E P S

Before moving on with larger prototype models, we should address some points and features that raised a concern among people with whom we interviewed. Some of these points of concern were the feasibility and practicality of the retractable structure, as well as lack of back support on the semi-arched bench/shelter wall serving as the back support for it. These features should be redesigned and incorporated into the updated prototypes, with further interviews about the features. This feature-testing should take on the form of “A vs. B. After a week of interviewing, we should have an idea of what was successful, and which features should be kept and integrated into the structure. We could also produce a video in which the features which could be shown in order to receive commentary on a technical internet forum. 

1. [↑](#footnote-ref-1)